CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-44
NPDES NO. CA0006165

AMENDING WASTE DISCHARGE REQUIREMENTS FOR:

STAUFFER CHEMICAL COMPANY
MARTINEZ PLANT
MARTINEZ, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Stauffer Chemical Company, hereinafter called the discharger, by application dated November 16, 1982, has applied for renewal of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger manufactures sulfuric acid by the contact process using a varied feed mix. The acid is produced by regenerating spent refinery sludge acids, and by burning sulfur. Wastewater flow is dependent on production rate, water content of the acid sludge, and runoff.

3. The existing discharges are as follows:

   a. Waste 001 consists of wastewater from sulfuric acid production, including process waste, blowdown from cooling tower, caustic scrubbers and other ancillary equipment, plant washdown, pretreated leachate from cinder and slag deposits on the plant site and seasonal rain runoff from the plant site. The leachate is treated by precipitation, flocculation, settling and neutralization, before being combined with the untreated process and other plant wastes and rainfall runoff. The combined waste is treated by preciptation, flocculation, settling and neutralization and is discharged into Peyton Slough at a point near the foot of Mococo Road. Peyton Slough is tributary to Carquinez Strait, a navigable water of the United States at Bulls Head. The discharge is not continuous. The average monthly dry-weather flow rate excluding leachate is approximately 0.063 million gallons per day (mgd).

   b. Waste 002 is domestic waste discharged into a subsurface leaching field about 2000 feet north of the plant office.

   c. Waste 003 is domestic waste discharged into a subsurface leaching field immediately east of the plant office.

   d. Waste 004 is domestic waste discharged into a subsurface leaching field immediately east of the north end of the laboratory.

   e. Waste 005 is domestic waste discharged into a subsurface leaching field about 500 feet north of the plant office.

4. The discharge is presently governed by Waste Discharge Requirements, Order No. 78-6 which allow discharge into Peyton Slough.

5. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Carquinez Strait and contiguous waters.

6. The beneficial uses of Carquinez Strait and contiguous water bodies are:

Water contact and non-contact recreation
Wildlife habitat
Estuarine habitat
Preservation of rare and endangered species
Fish migration and spawning
Industrial service supply
Navigation
Commercial and sport fishing

7. The Basin Plan states in part:

a. "... It shall be prohibited to discharge:

1. "Any wastewater which has particular characteristics of concern to beneficial uses at any point at which the waste water does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof.

Waste discharges will contain some levels of pollutants regardless of treatment. This prohibition will require that these pollutants, when of concern to beneficial uses, be discharged away from areas of minimal assimilative capacity such as nontidal waters and dead-end sloughs. This prohibition will accomplish the following:

a. Provide an added degree of protection from the continuous effects of waste discharge.

b. Provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions.

c. Minimize public contact with undiluted wastes.

d. Reduce the visual (aesthestic) impact of waste discharges."

b. "Exceptions to [this] Prohibition ... will be considered for discharges where:

a. an inordinate burden would be placed on the discharger relative to beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means, such as alternative discharge site, a higher level of treatment, and/or improved treatment reliability; or

b. a discharge is approved as part of a reclamation project; or

c. it can be demonstrated that net environmental benefits will be derived as a result of the discharge."

8. The Basin Plan states in part:

a. "... It shall be prohibited to discharge:

"All conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin. The intent of the prohibition is to minimize the discharge of persistent toxicants into waters, thus protecting aquatic life and public water supplies. The prohibition recognizes that these substances can be most economically reduced at their source."

9. The discharger's waste:

a. Contains conservative toxic and deleterious substances.

b. Has particular characteristics of concern to beneficial water uses and is discharged at a point at which the wastewater receives less than 10:1 initial dilution.

10. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) for this point source category have not been promulgated by the U. S. Environmental Protection Agency. Effluent limitations of this Order are based on the Basin Plan, State Plans and policies, and current plant performance. The effluent limits specified by this permit were developed by JRB Associates under contract with U. S. EPA, and are considered to be equivalent to BAT by the U. S. EPA.

11. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21110 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

12. The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT, Stauffer Chemical Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of waste 001 which contains constituents of concern, and is discharged at a location that does not receive a minimum of 10:1 dilution, is prohibited.

B. Effluent Limitations

1. Waste 001 shall not exceed the following limits:

Constituents	Units	30-Day Average	Maximum Daily	a/
Settleable Matter	ml/l-hr	0.1	0.2	
Total Suspended Solids	mg/l	20	30	
	kg/day	7.2		
Chemical Oxygen Demand	mg/l		46.0	
	kg/day		16.5	
Oil and Grease	mg/l		5.0	
	kg/day		1.8	
Iron	mg/l		0.8	
	kg/day		0.29	
Zinc	mg/l	0.260	0.8	
	kg/day	0.09		
Lead	ug/l	20	55.0	
	g/day	7.2		
Chromium	ug/l	30.0	65	
	g/day	10.8		
Cadmium	ug/l		15.0	
	g/day		5.4	
Copper	ug/l		50.0	
	g/day		18	

a/ The total mass of any constituent discharged in any calendar month shall not exceed thirty times the 30-Day Average Limitation. If a 30-Day Average Limit is not given, the total mass discharge shall not exceed thirty times the Maximum Daily Limitation. There is no limitation on frequency of discharge, the maximum rate of discharge shall be no greater than 0.5 MGD.

2. In addition to the 30-day average and daily maximum pollutant weight allowances shown in B.1, allocations for pollutants attributable to stormwater runoff discharged as a part of Waste 001 are permitted in accordance with the following schedules:

STORMWATER RUNOFF

Constituent	Units	30-Day Average
Total Suspended Solids	mg/l	20
Zinc	mg/l	0.26
Lead	ug/l	20
Chromium	ug/l	30

The total effluent limitation for the discharge is the sum of the stormwater runoff allocation and the mass limits contained in B.1. The total effluent limitation (both maximum and average) is to be computed by the discharger on a monthly basis as shown in Part B of the Monitoring Program.

3. The pH shall not exceed 8.5 nor be less than 6.5.

4. In any representative set of samples, the waste as discharged shall meet the following limits of quality:

   TOXICITY: The survival of test fishes in 96 hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	7.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentrations than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	pH	Variation from natural ambient pH by more than 0.5 pH units.
c.	Un-ionized ammonia	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum

3. The discharges shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Confinement Specifications - Waste 002, 003, 004, and 005

Waste Nos. 002, 003, 004, and 005 shall be kept entirely beneath the ground surface at all times.

E. Provisions

1. The discharger shall comply with all Limitations and Specifications of this order immediately upon adoption.

2. The discharger shall comply with Discharge Prohibition A.1 by July 1, 1987. The discharger shall submit by July 15, 1985 a proposal with time schedule for achieving compliance. Compliance may be achieved by demonstrating to the satisfaction of the Board that an exception to the Basin Plan Prohibition should be granted. The discharger shall submit to the Board by July 1, 1986 the proposed demonstration of Prohibition exception, or a demonstration that resources have been committed towards compliance, such as a Draft Environmental Impact Report. The discharger shall submit by July 15th and January 15th, annually, reports demonstrating progress towards compliance.

3. The discharger shall review the design specifications of the wastewater treatment system to 1) document the efficiency of the treatment system as currently operated including variability resulting from different feedstocks and runoff; 2) examine various methods of optimizing wastewater treatment efficiency if needed; 3) estimate cost of implementing the above improvements; and 4) estimate effluent quality which would result from implementing some or all of the above improvements. The report shall be submitted to the Regional Board for review within 15 months of adoption of this permit. This permit may be reopened and modified based on the Board's review.

4. In order to prevent, or minimize the potential for, the release of toxic substances or other materials deleterious to water quality, from ancillary activities to the waters of the United States through plant runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage, the discharger shall develop and implement a Best Management Practices (BMP) plan.

   The BMP Plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document", dated June 1981, and prepared by the U. S. Environmental Protection Agency, Office of Water Enforcement and Permits, NPDES Technical Support Branch. At a minimum, the plan shall include the following BMPs:

   a. BMP Committee
   b. Reporting of BMP incidents
   c. Risk identification and assessment
   d. Employee training
   e. Inspections and records
   f. Preventive operation and maintenance
   g. Good housekeeping
   h. Materials compatibility
   i. Security

   The BMP plan shall be submitted to the Executive Officer, for approval, within six (6) months of the adoption of this permit. The plan shall be implemented within twelve (12) months of the adoption of this permit.

5. The discharger shall submit to the Board, by January 30 of each year, an annual summary of the quantities of all chemicals, listed by both trade and chemical names, which are used for cooling and/or boiling water treatment and which are discharged.

6. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a current contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

7. This permit shall be modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(c), and (d), 303(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved;

   (a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or,

   (b) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

8. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

9. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requiremets and Definitions" dated April 1977, except Items A.5., A.16. and B.2. Items A.12. and B.3. shall be incorporated into and submitted with the Best Management Practices plan.

10. The requirements prescribed by this Order supersede the requirements prescribed by the Order No. 78-6 adopted on February 21, 1978. Order No. 78-6 is hereby rescinded.

11. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulatins [40 CFR 122.41(k)].

12. Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the Discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits.

13. This Order expires on April 30, 1990. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

14. This Order shall serve as a National Pollutant Discharge Eliminatgion System Permit pursuant of Sectin 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on April 30, 1985.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions & Reporting
Requirements, April 1977
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF MONITORING PROGRAM
FOR

STAUFFER CHEMICAL COMPANY, MARTINEZ

NPDES NO. CA0006165

ORDER NO. 85-44

CONSISTS OF

PART A, dated January 1978

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

Analyses, observations, and examinations shall be performed according to the specifications shown in Table I.

A. WASTE STREAMS

Station	Description
A-1	At a point at which all process associated wasted streams are present, prior to the treatment facility.
A-2	At any point at which all pretreated leachate waste streams is present, prior to the treatment facility.

B. EFFLUENT

001	At any point in the 001 waste stream from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present.

C. RECEIVING WATER

Station	Description
C-0	At a point in Peyton Slough located adjacent to the Mosquito Abatement District tide gate.
C-1	At any point in Peyton Slough, located within 20 feet downcurrent from the point of discharge.
C-2	At a point in the Peyton Slough, located at the boat landing pier, about 250 feet bayward from the Mosquito Abatement District tidegate.
C-3	At a point in Peyton Slough, located midway between Outfall A and the mouth of Peyton Slough.
C-4	At the mouth of Peyton Slough.
C-5 through C-9	At points in Suisun Bay, located at equidistant intervals along an arc with a radius of 100 feet from the confluence of Peyton Slough with waters of Suisun Bay, Stations C-5 and C-9 to be located near shore, westerly and easterly (respectively) from said confluence, at points with water depths of 2.0 feet.

C-10 through C-16	At points in Suisun Bay, located at equidistant intervals along an arc with a radius of 300 feet from the confluence of Peyton Slough with waters of Suisun Bay, Stations C-10 and C-16 to be located near shore, westerly and easterly (respectively) from said confluence, at points with water depths of 2.0 feet.
C-17, C-18 and C-19	At points located in Suisun Bay at intervals of 500 feet beginning from Station "C-4" westerly along the Shoreline of Suisun Bay at points with water depth of 2.0 feet.
C-R	At a point in Suisun Bay, located 2000 feet upcurrent from Station "C-4".

D. SEDIMENTS

Station	Description
B-1 through B-'n'	At points in Peyton Slough and Suisun Bay at locations coincident with the loci of Stations C-4, and C-R respectively.

E. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the periphery of the waste treatment facilities at equidistant intervals, not to exceed 200 feet. (A sketch showing the location of these stations will accompany each report).
L-002-1 through L-002-'n' L-003-1 through L-003-'n'	Located along the periphery of the respective waste detention areas at each point where leaching liquid or odor is detected. The locations shall be shown of a sketch which accompanies the report.

NOTE: Sketch showing the locations of all sampling and observations stations shall accompany each report submitted to the Regional Board.

II. MISCELLANEOUS REPORTING

A. The discharger shall record the rainfall on each day of the month.

B. The method used to determine stormwater runoff allocations will be evaluated during the 1984-85 wet weather period. The discharger will be allowed to continue using its present method until a more suitable method is developed by Board staff. A description of the method presently used by the discharger shall be included in its self-monitoring reports. The daily maximum allocation must be computed for each day Waste 001 is monitored.

C. The discharger shall retain the following information concerning the monitoring program for organic and metallic pollutants.

a. description of sampling stations, times, and procedures

b. description of sample containers, storage, and holding time prior to analysis

c. quality assurance procedures together with any test results for replicate samples, sample blanks and any quality assurance tests, and the recovery percentages for the internal and surrogate standards.

The discharger shall submit in the monthly self-monitoring report the test results together with the detection limits (including unidentified peaks).

After at least one year of monitoring results have been submitted, whey will be evaluated for the need to reduce or expand the monitoring program for organic and metallic pollutants relative to the parameters and sampling frequencies.

III. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given in Table I (attached).

IV. MODIFICATION OF PART "A", DATED 1/78

1. Exclusions: Paragraphs C.3., C.4., C.5.c., C.5.d., D.4.b, and E.4.

2. Modifications: Paragraphs D.1.a.: Replace "... on varying days selected at random.", with "... as specified in Table I."

I, Roger B. James, Executive Officer, here by certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 85-44.

2. Has been ordered by the Regional Board on the date shown below and becomes effective immediately.

3. May be reviewed at any time upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

April 30, 1985
Date Ordered

Attachments: Table I

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station		001		C1 thru C4 & CR	C-5 thru C-9	C-10 thru C-16	C-17 thru C-19	B-1, B-R	All P Sta.	All L Sta.	C-0	A-1	A-2
TYPE OF SAMPLE	C-24	G	Cont	G	G	G	G	BS	O	O	G	Cont	Cont
Flow Rate (mgd)			(5) Cont									(5) Cont	(5) Cont
COD (mg/l & kg/day)	W												
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/l-hr. & cu. ft./day)		D											
Total Suspended Matter (mg/l & kg/day)	2D/W												
Oil and Grease (mg/l & kg/day)	W												
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Tox'y 96-hr. TL_{50} % Surv'l in undiluted waste	(1) M												
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)	M			M							M		
pH (units)			Cont	(2) M	M	(3) E	M						
Dissolved Oxygen (mg/l and % Saturation)		5D/W		(2) M	M	(3) E	M						
Temperature (°C)			Cont	(2) M	M	(3) E	M				M		
Apparent Color (color units)	M			(2) M	M	(3) E	M				M		
Secchi Disc (inches)													
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)		D		W	W								
Arsenic (mg/l & kg/day)	Q												
Cadmium (mg/l & kg/day)	W			M			Q	Q					
Chromium, Total (mg/l & kg/day)	2D/W			M			Q	Q					
Copper (mg/l & kg/day)	W			M			Q	Q					
Cyanide (mg/l & kg/day)													
Silver (mg/l & kg/day)													
Lead (mg/l & kg/day)	2D/W			M			Q	Q					

TABLE 1 (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	001			C1 thru C4 & CR	C-5 thru C-9	C-10 thru C-16	C-17 thru C-19	B-1, B-R	All P Sta.	All L Sta.			
TYPE OF SAMPLE	C-24	G	Cont	G	G	G	G	BS	O	O			
Mercury (mg/l & kg/day)													
Nickel (mg/l & kg/day)	Q												
Zinc (mg/l & kg/day)	2D/W			M			Q	Q					
Phenolic Compounds (mg/l & kg/day)													
All Applicable Standard Observations		D		M	M	M	M		2/W	(4) 2/W			
Bottom Sediment Analyses and Observations													
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)													
Un-ionized NH_4OH				M									
Iron (mg/l & kg/day)	W			M			Q	Q					
Antimony (mg/l & g/d)		Q											
Total Aluminum (mg/l & kg/day)		M											
EPA Form 2C-elements and Cyanide (mg/l & kg/day)	Q												

Footnotes for Table I

(1) Testing shall be 96-hr renewal bioassay using a salmonoid species, and 96-hour static bioassay using Stickleback. Compliance shall be determined by the Stickleback bioassay. The discharger shall submit a report to the Regional Board within 10 months of adoption of this permit. The report shall correlate the results of the Salmonoid and Stickleback bioassays, and determine the cause of any variation between test results.
(2) Analysis shall be in the field and may be confirmed in the laboratory.
(3) Sampling at stations C-10 through C-16 will be required only when requirement violation is found at C-4.
(4) Any leaching of surfacing material to Peyton Slough or Suisun Bay shall be reported per Part A, Section E.1., of this program.
(5) Correlate Flows with flows attributable to operating variables, such as cooling tower and boiler blowdown, manufacturing level, feedstock type and runoff.

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
O = observation
Cont = continuous

FREQUENCY OF SAMPLING

E = each occurrence
D = once each day
W = once each week
M = once each month
2 D/W = 2 days per week
2 D/M = 2 days per month
Q = every 3 months

TYPES OF STATIONS

E = waste effluent stations
C = receiving water stations
B = bottom sediment stations
L = basin and/or pond levee stations
P = treatment facility perimeter station